

**Achieve
the
Mission**

**Right-
Size
Inventory**

**Optimize
Operating
Expense
s**

Enterprise *AIRSpeed*

CDR John Kemna,
AIMD Oceana

brief to:

**Aviation Maintenance Safety
Conference**

April 28,
2005

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- What is Enterprise *AIRSpeed*
- The Implementation Process
- Lessons Learned
- Successes

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Today's Readiness Challenge

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- CNO has directed a new Fleet Response Plan (FRP) to support fleet operations in the Global War on Terrorism
- Naval Aviation will have to support current levels of readiness despite a budget shortfall
- Requirements growth in the FHP
- Navy and Marine Corps unit commanders will fight in a cost-wise

July 2003

**Cost-Wise Readiness Became the
Focus**

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As-Was State

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- Many local process improvement initiatives are on-going
 - NAVRIIP TMS Team BRTs
 - PMB, AFMB, CPMB
 - Lean, Six Sigma, TOC
- Efforts are not aligned and often compete
 - Operating in Stovepipes
 - Narrowly focused efforts
 - Local decisions are not globally aligned, with interdependencies having unintended consequences

TYCOMs, NAVAIR, ICP, USMC & OPNAV have aligned and are focused on attaining cost-wise readiness through an enterprise-wide solution



***AIRSpeed* provides the tools to
achieve Cost-Wise Readiness across
the Naval Aviation Enterprise.**

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To enable effective and efficient preparation of Cost-Wise Ready for Tasking (RFT) aircraft in support of FRP.

- **Enable** - using AIRSpeed tools in order to be....
- **Effective** - at meeting RFT rating requirements
- **Efficient** - at iteratively reducing costs
- **Preparation** - repair & replenishment of equipment

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AIRSpeed is...

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- **Enterprise Approach**
 - Creates a continuous process improvement environment
 - Aligns and optimizes Maintenance and Supply activities to end-user demand (Operations)
 - Leverages existing initiatives
 - **Utilizes TRR to size & position inventories**
- **Cultural Change**
 - Synergizes a set of industry tools
 - Eliminates sub-optimization
 - Local decisions made with Global impact known
- **Creates a “pull” system**

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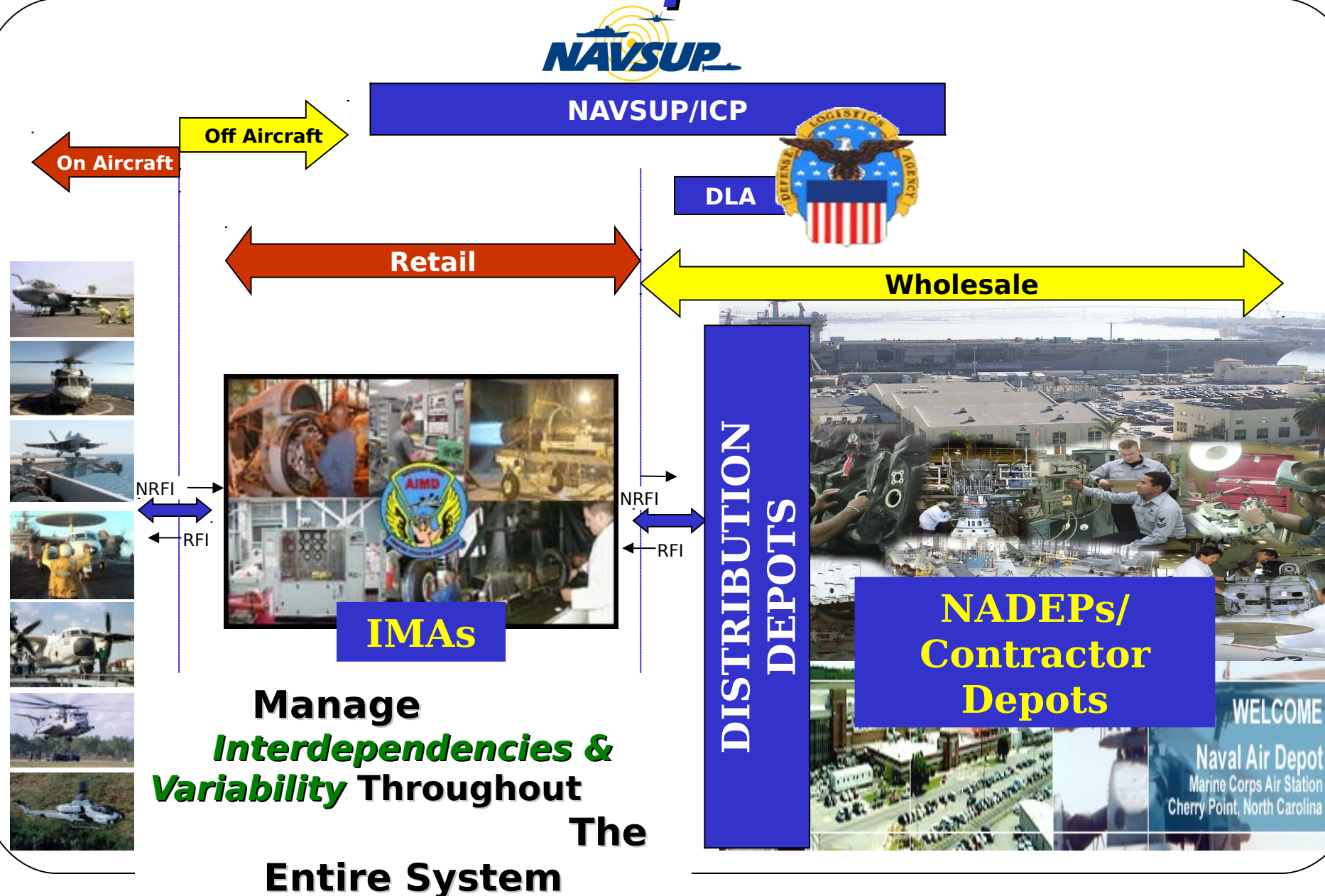
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- Properly Manage RFT (mission)
- Manage and Reduce
 - Inventory/Investment
 - parts, equipment and facilities, APN
 - Reduce Operating Expenses
 - O&M,N, MPN
 - Variability
- Identify and manage constraints
- Identify and address interdependencies
- Create a Culture of Continuous Process Improvement (CPI)

“Local decisions must be aligned to the global impact”

The Scope of Enterprise AIRSpeed



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- **Theory of Constraints (TOC)** is based on the belief that any organization has at least one constraint and that any improvements on non-constraints may not yield as significant ROI as working on the constraint.
- **Lean** focuses on the removal of waste-defined as anything not necessary (no value added) to produce the product or service.
- **Six Sigma** is based on the assumption that the outcome of the entire process will be improved by reducing the variation of multiple elements.
- **AFAST** is a Cost Analysis tool used to understand Consumption Variances and Production Cycles

Three Phases of Enterprise AIRSpeed

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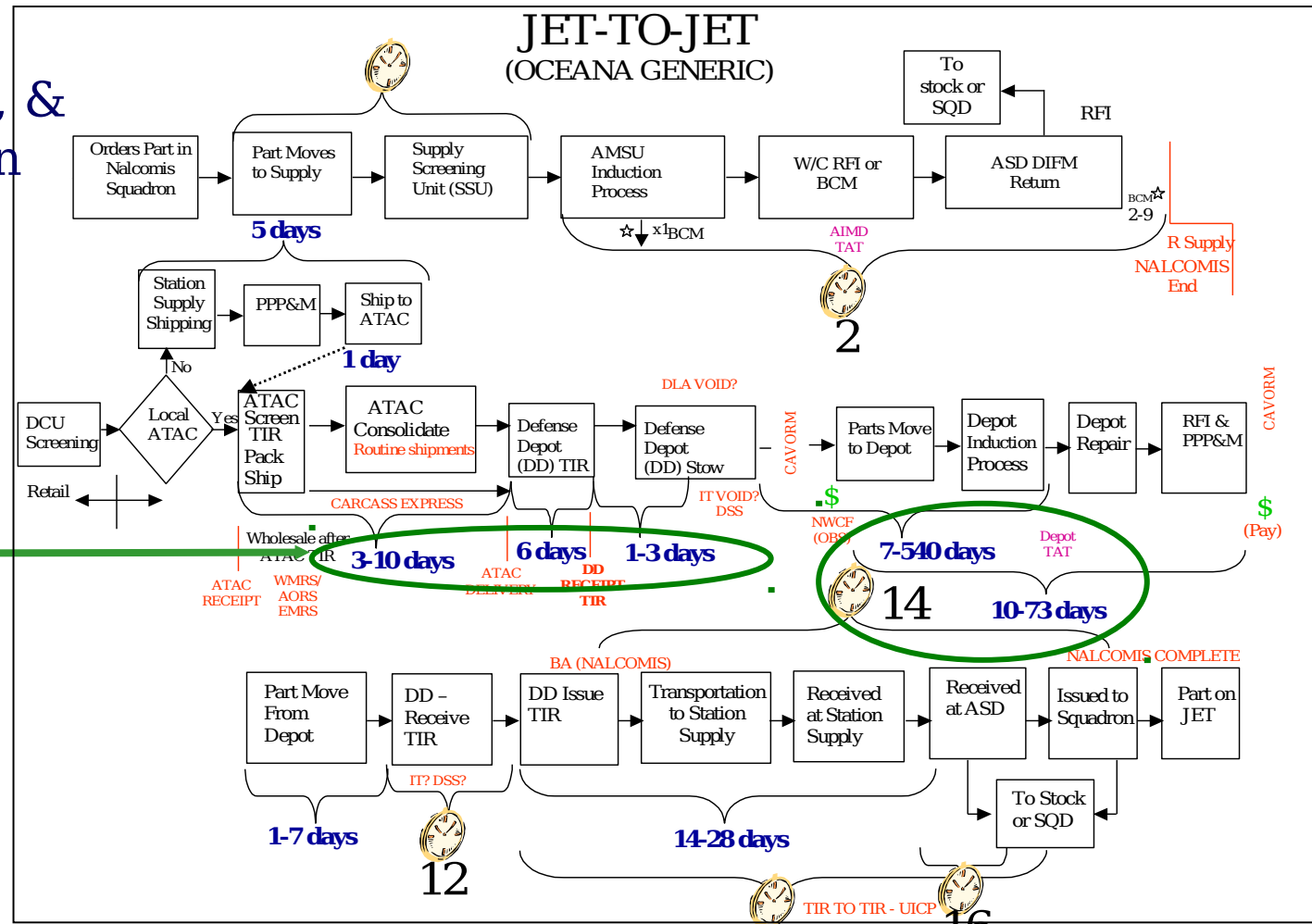
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- **Design**
 - 14-18 Weeks per site
 - Baseline the “As-Is” state
 - Design the “To-Be” state
- **Deployment**
 - Put in place resources to support “to-be”
 - Go live with the “to-be” state
 - 12-18 Months to encompass the entire activity
- **Sustainment (on-going)**
 - Establish a Center of Excellence
 - Incorporate “AIRSpeed” into Policy
 - **NAMP, P485, OPNAV5442**
 - AIRSpeed Office at every activity
 - Schoolhouse & Online Training
 - “A” & “C” Schools
 - JASMMM, AMO, SEAMM, PCO, PXO, etc
 - NKO

Enterprise As-Was View

AIRSpeed Pre-“Systems Think”

- Separate Maint, Supply, & Transportation Systems
- Paying a premium for transport then ‘warehousing’
- IT Systems did not facilitate integration



variability & lack of understanding interdependencies make this system virtually unmanageable.

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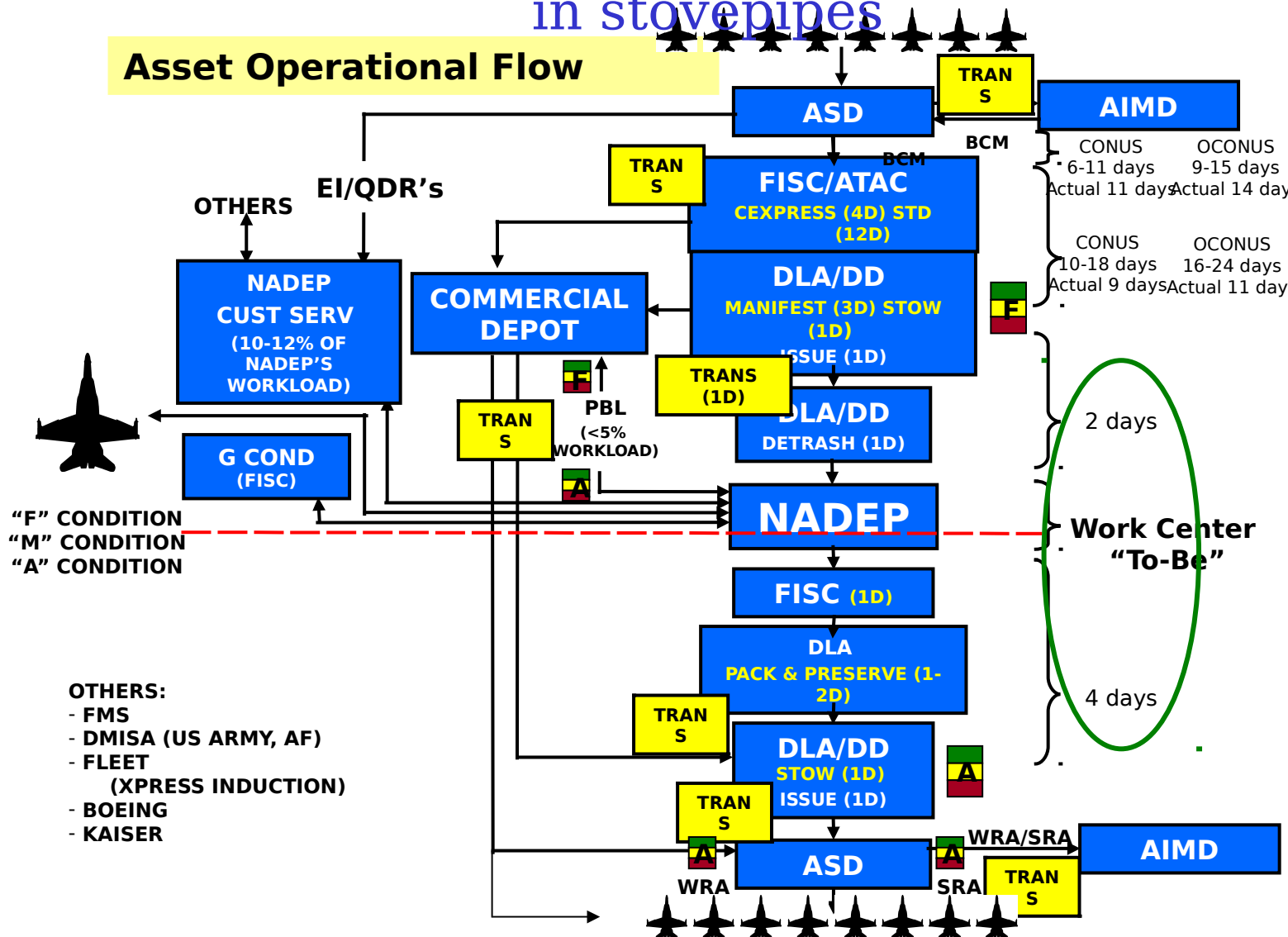
Design

Entire system addressed, not managed
in stovepipes

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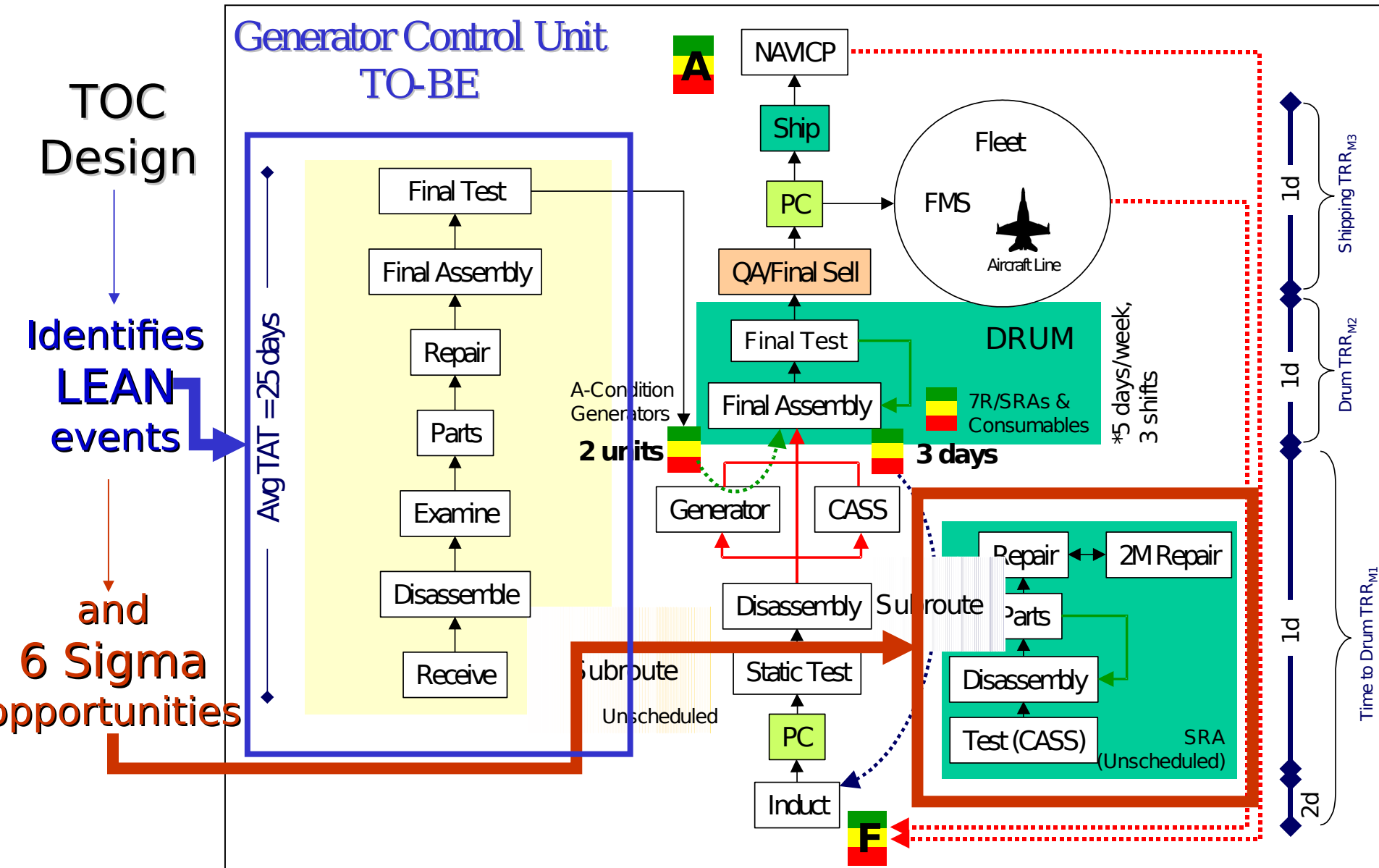
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An Integrated Approach



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- Support Fleet Readiness Plan
 - Provide Ready for Tasking Aircraft
 - Per CFT 1 Entitlements
- Reduce Total Cost of Naval Aviation
 - Reduce Inventory, Operating Expenses, and Manpower
- Integrated Maintenance & Supply Support System
 - Seamless support to the Fleet
- Improve Logistics/Maintenance Response
 - Decrease Cycle Time
 - Decrease Logistics Footprint
- Place Ownership and Accountability at the appropriate Levels

These are the consequences of doing AIRSpeed right.

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- **Turn Around Time Reductions:**
 - In all cases to date, turn around time has reduced by at least 40%.
- **Manpower Reductions:**
 - In almost all events, at least one billet can be removed from the process.
- **Work in Progress (WIP):**
 - On average, WIP is reduced nearly 50% in areas that have implemented AIRSpeed principles.
- **I to D Level Integration**
- **Daily operating expenses** are decreasing at each activity
- **Inventory levels** are expected to decrease significantly*

*Once the TMS system is designed, inventory levels will be adjusted.

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- Select the best... dedicate them full-time
- Engage and train leaders & influencers first
- Don't work from the bottom up
- Include customers and suppliers
- Begin with the end in mind
- Remain flexible in your approach
- Visibly celebrate accomplishment

Leadership Must Be Visibly Committed & Engaged

Success Stories

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Samples of Successes

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Site	Objective	Results
AIMD/AS D Lemoore, CA	Reduce Engine TAT	from 83 days to 12 days
	Reduce PRC/URT repair time	from 90 mins to 30 mins
	Decrease TAT of the Radar Shop	from 14 days to 2 days
	Reduce Training and Licensing process for SE	from over 2 hours to less than 15 minutes
AIMD/AS D North Island, CA	Reduce daily activity repair costs by only repairing demand-based components	Reduced daily AVDLR repair costs by \$50,000
	Reduce the cycle time it takes to process a part through the life preserver workcenter	Reduced cycle time from 39 hours to 16 hours
	Reduce expeditious repairs (EXREPS)	Reduced EXREPs by 83%
	Reduce non-moving inventory levels	Reduced 300 AVDLR line items from inventory
	Reduce AFM expenditures	Reduced daily AFM costs by \$28,000

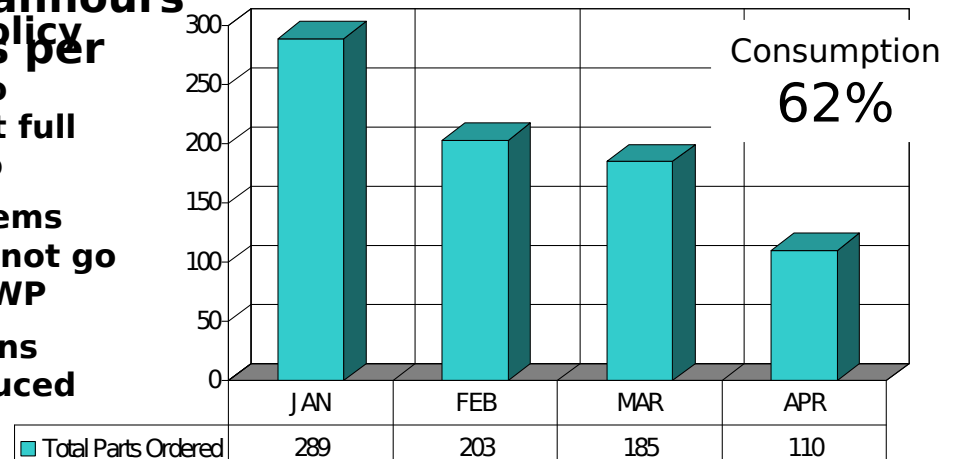
Current TOC Accomplishments

600 Division

W/C 640, ATC Prince

- Integrated Lean, Six Sigma and TOC tools
- Decrease in Awaiting Parts 15%
- Decrease in parts ordered 35%
- Decrease in Pool Critical items 42%
- Reduced required manhours from 144 to 80 hours per week
 - Implemented "No Cann" Policy
 - Cannibalizations driven to ensure Suppo's shelf kept full and manage to DIFM Zero
 - Analysis: 74 percent of items that had been cann'd did not go RFI after coming out of AWP
 - Conclusion: Reducing cann's reduces maintenance induced failures
 - RFT not impacted

- \$2,000,000 reduction in spending during first 4 months of CY04
- 110% surge in May over the last 4 months average



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Current API Accomplishments

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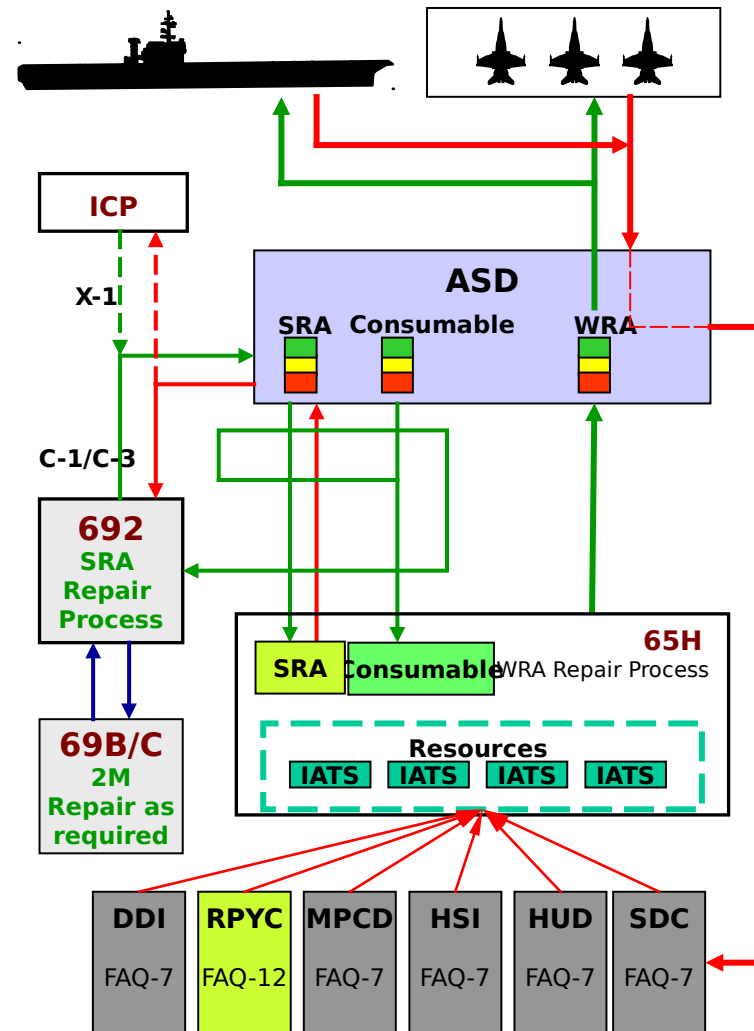
Right-Size Inventory

Optimize Operating Expenses

W/C 65H, AEC Blair

600 Division

- **RPYC is No. 4 of six of the components in the top 10 WRA'S of the AIMD Index (No. 2 on the Kelly Index)**
 - RPYC and 49 other WRA's compete for bench time on IATS
 - Currently experiencing 25% A799 rate
 - A799 RPYC's consume more than 1,300 hrs annually on IATS; significantly impacts IATS bench availability
- **Opportunities:**
 - Reduced A799 rate would put AIMD closer to meeting flightline consumption with current allowance of 12 RPYC's
 - Implemented walk-thru test and check option to help reduce false demand induced at the ASD



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- Reduced Engine TAT from 83 days to 12 days
- PRC/URT Repair time decreased from 90 to 30 minutes
- Radar shop improved TAT from 14 days to 2 days
- SE improved Training and Licensing process from over 2 hours to less than 15 minutes
- Ordnance Division eliminated BRUs being turned in before 210 day inspection. (Quality built in)
- Paraloft - first division to add “defect” elimination to their processes
- “O” level FLIR pod team incorporated into the “I” level FLIR work center

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- Eliminated 30 Bare Firewalls (BFWs) and now have 22 spares for the F-404
- Decreased F-404 Rail usage from 18 to 6
- Reduced F-404 TAT from 78 to 27 days while maintaining a 15% increase in module builds
- Reduced F-18 hydraulic actuator cycle time by 47%
- BRU-32 inductions for unscheduled maintenance decreased from 80% to 40% due to much improved build quality

We have the opportunity to positively impact the business of Naval Aviation through the proper application of *AIRSpeed*.



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Deployment Schedule

 **Lean**

 **TOC**

CY 2005

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AIMD/ASD Whidbey Island, WA												
AIMD/ASD North Island, CA												
MALS-11 MCAS Miramar, CA												
*AIMD/ASD Mayport, FL												
AIMD/ASD Jacksonville, FL												
* MALS-12 Iwakuni, Japan												
* MALS-14 Cherry Point, NC												
NADEP Jacksonville, FL												
AIMD/ASD Brunswick, ME												
AIMD/ASD Norfolk, VA												
MALS-24 Kaneohe, HI												
MALS-29, New River												
MALS-39 Camp Pendleton, CA												
MALS-16 Miramar, CA												
AIMD/ASD Corpus Christi, TX												
AIMD/ASD Fallon, NV												
AIMD/ASD Misawa, Japan												
AIMD/ASD Oklahoma City, OK												
MALS-13 Yuma, AZ												

***Lean Completed in CY04**

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Deployment Schedule

 Lean TOC

CY 2006

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

**AIMD/ASD Misawa, Japan

*AIMD/ASD Pt Mugu, CA

**AIMD/ASD Fallon, NV

**AIMD/ASD Corpus Christi, TX

**MALS-16 Miramar, CA

AIMD/ASD Oklahoma City, OK

AIMD/ASD Atsugi, Japan

MALS-13 Yuma, AZ

MALS-26 New River, NC

MALS-36 Okinawa, Japan

JRB Marietta, GA

JRB New Orleans, LA

NAF Andrews, MD

JRB Newburgh, NY

JRB Fort Worth, TX

*Lean Completed in CY04

**Lean Completed in CY05